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QUALITY CIRCLES: AN INNOVATIVE PROGRAM TO IMPROVE MILITARY HOSPITALS

A Graduate Research Project

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by

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Increasing pressure has been applied to the health care industry to reduce costs, improve quality, and increase efficiency. For many years, the Japanese have been using teams of cooperating workers called Quality Circles to increase productivity and assure quality. The concept has been successfully applied in American industry and introduced into hospitals. A Quality Circle consists of employees who voluntarily meet on a regular basis to identify, analyze, and solve quality and other problems in their work areas. This study develops a plan for the implementation of a Quality Circle in a military hospital, as well as a method for its evaluation. Keywords: Quality assurance, Quality Control, Military, Medicine, Hospital Administration, Theses. (AW)

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CORRECTIONS FOR GRADUATE RESEARCH PROJECT OF CAPTAIN LARRY D. ELLIS

PAGE NUMBER	CORRECTION
3	A corrected page is provided.
4	A corrected page is provided with the last sentence in paragraph 3 deleted. Wilford Hall USAF Medical Center does have a Quality Circle Program which was implemented in December 1981. Six circles were organized originally with three of them still meeting at this time.
15	A corrected page is provided.
29	A corrected page is provided.
43	This appendix is a handout from the Quality Circle Facilitator Course run by the U.S. Army Management Engineering Training Activity (AMETA), Rock Island, Illinois 61299
54	This appendix is a handout from the Quality Circle Facilitator Course run by the U.S. Army Management Engineering Training Activity (AMETA), Rock Island, Illinois 61299
58	This appendix is a handout from the Quality Circle Facilitator Course run by the U.S. Army Management Engineering Training Activity (AMETA), Rock Island, Illinois 61299
63	This appendix is an actual management presentation done by the AB Feedback Quality Circle from the Norfolk Naval Shipyard in March 1981.
79	This appendix is an actual outpatient medical records report for FY 1981 from the Patient Administration Division, General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.
82	This appendix is an attitude survey developed by Captain Ellis to be utilized as a presurvey and postsurvey for a quality circle.

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ACKNOWLEDGEMENTS

I would like to thank Barnes Hospital for permitting me to observe and learn about quality circles first hand in their hospital. The generous assistance from Rusti Moore and Walter Klein was especially appreciated. A special note of thanks must be given to Captain Hurshel Nance who supplied me with a wealth of research material and detailed training on quality circles. Finally, the faithful typing and morale support of my wife, [redacted] to see the project through to completion must be recognized.

LIST OF ILLUSTRATIONS

I. INTRODUCTION

Increasing pressure has been applied to the health care industry to reduce costs, improve quality, and increase efficiency. These pressures have been applied by the government, third-party payers, PSROs, and even employers. To deal with this pressure, hospitals have begun to seek out new ways to manage their facilities more efficiently. The Japanese for many years have been using teams of cooperating workers called quality circles (QCs) to increase productivity and assure quality. This management concept has been applied successfully in recent years to American Industry and has now been introduced into hospitals. Barnes Hospital in St. Louis, one of the leaders in this effort, has implemented 26 QCs in their hospital during the past year. This program has proven to be highly successful so far in stimulating worker participation and in problem solving.

QCs are groups of personnel who voluntarily meet together weekly to identify, analyze, and solve quality and other problems in their area. Ideally, members from a particular circle should be from the same work area or do similar work so that problems they select will be familiar to all of them. The size of a circle can vary from a low of three members to a high of about fifteen. One of the most important aspects of QCs is

that membership is strictly voluntary. No one is required to participate and no one is kept out. QCs differ from other programs because circle members select a problem that needs attention, analyze the problem, and present their solution to management. The ultimate objectives of Qcs are to: (1) reduce errors and enhance quality, (2) inspire more effective teamwork, (3) promote job involvement, (4) increase employee motivation, (5) create a problem-solving capability, (6) build an attitude of "problem prevention", (7) improve hospital communications, (8) develop harmonious manager/worker relationships, (9) promote personal and leadership development, and (10) develop a greater safety awareness. QCs use many techniques in their problem-solving. Some examples are: (1) brainstorming, (2) data gathering (sampling), (3) check sheets, (4) pareto analysis, (5) cause and effect problem analysis, (6) presentation techniques, (7) histograms, (8) control charts, (9) stratification, and (10) scatter diagrams. A significant amount of training is required to learn how to utilize these techniques effectively. This training is conducted by a facilitator and the leader of the circle. It is an integral part of the program. Two key factors necessary to make QCs work are that management must fully support the program and the primary philosophy of the program must be people-building.

This Graduate Research Project was prompted by a strong personal interest in QCs and their possible application to military hospitals. QCs were viewed as a means for military

hospitals to solve some of the same problems facing civilian hospitals. Discussions concerning the use of QCs in a military hospital were held with the Executive Officer of the hospital. It appeared obvious that the QC concept must be tailored to fit the military health care environment. Therefore, it was determined that QCs were an innovative concept that could be of significant value to military hospitals if it was properly implemented.

Statement of the Problem

The problem was to develop an implementation plan for a quality circle program (QCP) in a military hospital and a method to evaluate its success.

Limitations

QCs are not a cure-all or a magical solution to organizational problems. A bad organization cannot be corrected with a QCP. QCs are a means to make a good organization better. A QCP will only work if nurtured properly, fully supported, and properly conducted.

In addition, the focus of the military hospital should be on long-term objectives for the QCP. Management must be cautioned against an overemphasis on short-term results. A QCP cannot be depended upon to provide a quick return on investment. Some of its long-term benefits are a reduction of employee errors, improved product or service quality, more effective teamwork, more harmonious manager-worker relations and improved

personnel morale. It is these goals, rather than any immediate financial improvement, which should hold center stage when implementing a QCP. In fact, permanent dollar benefits flow from significant long-term reforms, not from short-term gimmicks. Management must understand this limitation before embarking on a QCP.

Factors Influencing the Research

The Graduate Research Project will develop an implementation plan for a QCP in a military hospital utilizing the experience base developed by Japanese Industry, American Industry, military organizations, and other hospitals. Extensive research has been done to extract those important characteristics from other QCPs which can be tailored to a military hospital setting.

Because of the long-term nature of a QCP, it was not possible to test an actual QC in a military hospital. In addition, the total mangement commitment required to make a QCP work would be very difficult to generate in a research mode only.

There are a few assumptions which must be established for the research project. It is assumed that the following will be true in the implementation of a QCP:

1. All military hospitals are basically similar and will provide a similar environment in which to operate a QCP.

2. The QCP will fully utilize the present chain of command. It will utilize the present organizational structure and will not create any new channels of communication or operation.

3. Top management will provide complete support for a QCP to be implemented. If this assumption cannot be made, a QCP should not be attempted.

4. The primary philosophy of the QCP must be people-building and not just a means to promote the organizational goals of the hospital.

Literature Review

The QC concept has come from Japan. It is quite interesting to find that it was General Douglas MacArthur who laid the groundwork for what was later to become known as QCs. As Commander of occupied Japan, he was committed to a policy of putting the Japanese economy back on its feet following the devastation of World War II. To implement his policy he called on Dr. W. Edward Deming, an American expert in statistical quality control. In 1954, four years after Deming introduced the concept of statistical quality control, Dr. J. Juran, a renowned quality control professional, began introducing the total control concept to the Japanese. It was this approach to quality which involved everyone in management and formed the basis for the QCP that emerged several years later.

During the following eight years, the Japanese molded the teachings of Deming and Juran, the research proposals of American organizational specialists Peter Drucker and Chris Argyris, and the motivational theories of Douglas McGregor and Abraham Maslow into a unique style of management. In 1962 Dr. Ishikawa, a professor at Tokyo University, developed the QC concept based on these newfound principles.[1]

It was not until 1973 that the United States became interested in the QC concept. The first major breakthrough occurred when Wayne S. Rieker took a study team from Lockheed Corporation to Japan to get a first-hand look at QCs in eight companies. Some of the companies visited were Bridgestone Tire and Rubber, Honda Motor Company, and Toyota Motors. They discovered that QCs were not identical in each company. They were even given different names, but they were all oriented toward taking advantage of the collective thinking power of the total work force (not just management's). They used educational and training techniques as a requisite to develop workers and raise their individual self-esteem. Rieker began to understand and accept Japan's management's conviction that the QC concept has been a major factor in stimulating the worker's interest in his job and sparking his high commitment to quality and productivity. He saw production employees working at an enviable pace and doing so with an unmistakable feeling of enthusiasm and mental engrossment in their work. Rieker was advised over and over to heed certain basic cautions in implementing a QCP. These were: 1) Go slowly! "He was advised to start with one circle. Don't be hasty. Make it a showpiece. When management becomes enthusiastic do not let them stampede a 'too-fast' expansion. The program should grow at the same speed as workers will voluntarily join." There was great profundity in those words of advice; 2) He would fail if his real purpose was not one to help <u>develop the worker</u>. It must be aimed at the worker's betterment in

order for him to be motivated from within. If the program was strictly for quality, productivity, or cost reduction, it would fail; and 3) It will be more difficult for him to succeed than it was for them because of a number of cultural differences that probably work to their advantage. From his visit to Japan, Rieker determined that QCs would work in other cultures besides Japan if the proper training materials, management attitude and support were provided. He decided to stick very closely to the successful Japanese model and only change parts that did not work in the United States. This was the way in which he implemented and operated QCs at Lockheed. Lockheed became the first successful major user of QCs in the United States.[2]

Since 1973, between 2000 and 3000 circles in some 300 organizations have been started all over the United States.[3] Most of these have been utilized in American industry. The first DoD applications came in September 1978 at Hill Air Force Base, Utah. This application of QCs has proven so successful that it has been expanded to include sixteen circles in just over two years. Other programs include the Sacramento Army Depot (begun in 1979- twelve circles), the Alameda Navy Aircraft Re-Work Facility (begun in 1980 - five circles), and the Norfolk Naval Shipyard (begun in 1980 - nine circles, expanding in 1981 to thirty-six circles).[4] Presently, the United States Army Depot Systems Command is in the process of initiating the largest QCP within the military structure.[5]

Finally, the last frontier for QCs in the United States has been hospitals and other health care organizations. Peter

Drucker has called hospitals the most complex organizations known to man. It is in the complexity of the modern hospital that QCs may find their greatest challenge. Two hospitals that are leading the health care sector in the implementation of QCs are Barnes Hospital in St. Louis, Missouri and Mount Sinai Medical Center of Greater Miami, Miami Beach, Florida.

At Barnes Hospital, Rusti Moore, director of education and training, is responsible for the QCP. She introduced QCs to the management at Barnes as a worthwhile, workable concept. Because she was convinced that QCs were applicable to the health care sector, Moore engaged Wayne Rieker, now a consultant in circles-style managment techniques, to make a presentation to the executives of Barnes Hospital. Robert E. Frank, president of Barnes Hospital, made the institutional commitment to proceed with QCs. Frank explains that, "we believe people at the delivery edge of health care have a lot of good ideas about how to improve the quality and efficiency of service, but you don't get those ideas unless you actively solicit them. We need a system that allows employees to express their ideas - QCs is such a system."[6]

Realizing that genuine commitment all up and down the organizational chain of command would be critical to the success of QCs, Frank authorized the implementation of QCs on a purely voluntary basis. For example, if a vice-president agrees that QCs are appropriate in the hospital departments within his system, then each department head will have a choice of whether

or not to foster the development of one or more QCs. Even within the department, each supervisor has a choice. Those who volunteer will become circle leaders, and the circle itself will be composed of volunteers under his supervision. When the opportunity presented itself some of the vice-presidents were eager to try the concept; others took a more cautious "wait-and-see" approach.

At Barnes, eight QCs were formed originally. They were established in dietary, laboratory, housekeeping, security, education/training, and on three nursing units. In March 1981, eight additional circles were formed. At the end of 1981, there were 26 operating circles and 3 circles that have been disbanded.[7] When Barnes launched its QCP, Rieker was hired as a consultant and he conducted the first leader training session and provided training materials. Today, the Barnes Education and Training Department conducts these training sessions. The optimum size of a QC is 5-12 employees. In more than half of the circles established at Barnes, there have been too many volunteers, so some circles must devise a plan for scaling the group down to size. The circles at Barnes choose their meeting day and generally convene at the same time each week for one hour. In addition, QCs are usually identified with names chosen by the QC members. Part of the fun is selecting a name for the circle. Some of the circle names at Barnes were Grimebusters (Housekeeping), Frigid Ten (Plant Engineering), Record Ring (Medical Records), and the Heart Throbs (Nursing).

Many of the employees who volunteer for a QC are hesitant initially to speak up in front of a group. Moore explains that it is the first time in their working lives they have been asked to participate in management decision making. Once they get used to the idea and begin to build confidence in the system, they relax and become involved quite naturally.

An example of the problems solved by the QCs at Barnes is illustrated by the first problem solved by the air conditioning QC concerning a shift-to-shift communication gap. The problem was that a new shift would come on duty and spend time unnecessarily diagnosing problems which had been discovered on the earlier shift, or just trying to figure out what repairs had been made already. The solution was a status board which alerts the incoming shift to problem areas and brings them up-to-date on work done by the previous shift. This very simple solution which could have been done long ago was provided by the organized work of the QC thinking the problem through and determining a solution.

A nursing QC in the cardiothoracic operating room dealt with an overtime problem which was contributing to low morale. The nurses resented the long and often unpredictable hours they were working as overtime. Over a period of months, they devised a flexible ten-hour shift, a proposal which they presented to management. Management accepted the plan, and now they are happy with their work schedule because it is their plan, based on their needs. This is an example of a QC solution

going full cycle. Generally, a QC will deal with problems of a nature that can be solved within the division, with the agreement of the supervisor. Sometimes a QC will tackle a problem and come up with a solution for which they need higher approval. In this case, the QC will make a management presentation. Management always has the authority to accept a QC proposal, to request additional information, or to reject the proposal. However, in every case they are committed to listen and consider the proposal.

The author had the privilege to visit Barnes Hospital and conduct some on site research. There was an opportunity to observe two actual QCs in operation. One was in housekeeping and the other was on a nursing unit. It was an eye-opening experience to see these QCs work. The enthusiasm and interest was obvious in every circle member. One could feel that these people were doing something important and each felt like they were part of it. The participation by all members was exceptional. The housekeeping circle had just prepared a videotape of their last management presentation. As they watched the videotape, their sense of self-satisfaction was unmistakable. The nursing QC was in the process of brainstorming the problem of making the best use of personnel during the two-hour overlap period when the ten-hour shifts change. It was obvious the QC process was working in this nursing unit. In conclusion, my visit to Barnes served as a clear validation of the QC process in the hospital environment.

A facilitator in the Barnes QCP sums it up this way: "Hospital employees are starved for recognition. QC goes a long way in providing the communication opportunities they need. In the last few months, I've seen circle members literally blossom. When that happens over and over again, you know you're onto something good."[8]

The Mount Sinai Medical Center started with six QCs in October 1980 and now has twelve. Alvin Goldberg, executive vice-president and chief executive officer, sees the QC movement as an opportunity to revive participative management in the hospital industry. He says, "the sad commentary is that we used to conduct ourselves this way in the hospital community. We got away from it. We're trying to go back to the family concept."[9] According to Mr. Goldberg the bottom line is quality patient care from admission to discharge. The focus is on the patient and the effort every employee at every level feeds into the system.

Mount Sinai's dietary QC, for example, has come up with a solution to the problem of giving the wrong food to patients who order items not on the hospital's printed menus. The members of the quality circle found that clerks were omitting items in their rush to meet a 3 p.m. deadline for getting orders to the kitchen. They recommended that management change the deadline to 4 p.m. and presented a plan to implement their solution.

One of the hazards presented by the QCP are the physicians' perceptions of it. The medical staff hasn't been eager to

participate. Mr. Goldberg feels that once they have a degree of success, he can go to an executive or liaison committee and make a presentation and then invite the physicians to participate. The administrator of the hospital implementing a QCP has to be out there like a cheerleader. Assistant administrators have to see that he is for it. Department heads and the administrator have to be on the executive committees of the circles so there is an indication that management is behind it.[10]

John Baird, manager of Modern Management Inc.'s Positive Personnel Practices division has identified some of the reasons why QCs have not worked in hospitals.[11] They provide an insight into the complexity of the modern hospital and why QCs face a special challenge in a hospital environment. The first reason is a failure to recognize the "systems" nature of hospitals. The level of interdependence seen in a hospital is unmatched by other types of organizations. In a hospital the work flow is not sequential. The work flow can best be characterized as concentric circles, with the patient, ancillary and support services surrounding nursing. All of these units perform their functions co-actively and supportively rather than independently and sequentially. The interdependence and co-activeness of hospital departments may prevent QCs from making unilateral changes and achieving the major changes they desire. Baird insists that if QCs are to be effective, they must exist in most nursing units, as well as in other areas of the hospital. Hospitals that have attempted to start QCs without involving nursing typically have failed.

The second reason is a failure to incorporate existing hospital committees. In every hospital, the existing committee structure deals with the same kinds of problems that would be attacked by QCs. To have these committees functioning independtly of the QC system is to create a duplication of effort and less efficiency. In addition, standing committees may resent the creation of QCs that overlap their authority and may actively work to undermine the QCs. Baird suggests that standing committees should be incorporated into the QCP by serving as advisors, facilitators, or by having representatives sit in each QC meeting.

The third reason is a failure to incorporate the medical staff. If physicians are not included in the decision-making process, they may resist the changes recommended by the QCs, frustrate the circle members, and ultimately destroy the process. Baird states that nurses are anxious to be viewed as physicians' peers and to have an equal voice in designing patient care systems. By having QCs comprised of nurses and physicians, this desire among nurses is met, and better quality recommendations are developed.

The fourth reason is a failure to allow the QCs to deal with non-work issues. Baird feels that hospital employees really need this sort of discussion and most QC facilitators are taught to keep it out of the QC.

The final reason is a failure to assess the organization's readiness for QCs. If the employees are preoccupied with issues like pay and other major organizational deficiencies, they may not be ready for a QCP.[12]

Research Methodology

This research project was conducted by gaining a complete understanding of QCs and their operation. This was achieved through the following methods: (1) a thorough literature review; (2) a visit to Barnes Hospital, St. Louis to observe actual QCs in operation. In addition, the implementation of their QCP was analyzed fully; and (3) a facilitator training program was conducted by the Organizational Effectiveness Staff Officer, Fitzsimons Army Medical Center who has received extensive training on QCs. The unique aspects of the military health care environment were analyzed to understand the special needs or requirements that exist. An implementation plan was tailored to fit that environment. Finally, a methodology to evaluate the success of the QCP was developed utilizing cost analysis, work performance indicators, and surveys.

FOOTNOTES

[1]Ronald B. Konarik and Wayne Reed, "Work Environment Improvement Teams: A Military Approach to Quality Circles," Quality Circle Journal (May/June 1981): pp. 94-95.

[2]Wayne S. Rieker, "Trip Report for Study of Quality Control (QC) Circles in Japan -- November 1973," Sunnyvale, California. (Typewritten.): p. 6.

[3]"'Participative Management' May Hold Key to American Worker Output," Cost Containment Newsletter(September 1981): p.5.

[4]Joe M. Law, "Quality Circles Zero in on Productivity," Management (Summer 1980): p. A-19.

[5]Ronald B. Konarik and Wayne Reed, p. 95.

[6]Dian Sprenger, "Circles," Missouri Hospitals 6 (Summer 1981): p. 15.

[7]"Hospitals Adopt Japanese Managerial Style," Hospitals (November 1, 1981): p. 53.

[8]Dian Sprenger, p. 19.

[9]Donald E.L. Johnson, "Quality Circles Put Workers in Charge of their Productivity," Modern Healthcare 11 (September 1981): p. 70.

[10]Ibid., p. 74.

[11]John Baird, "Quality Circles Substantially Improve Hospital Employes' Morale," Modern Healthcare 11 (September 1981): pp. 72,74.

[12]Ibid., pp. 72,74.

II. DISCUSSION

General

A military hospital represents a significant challenge in the implementation of a QCP. The success of civilian hospitals using QCs must be observed closely to derive those key elements which will hopefully also work in a military hospital setting. A special consideration is that no one model for QCs is absolutely right for all organizations. One cannot simply copy another hospital's QCP and expect it to be successful. Instead a QCP must be tailored to the unique environment in which it will be operating. The present environment in which a military hospital exists presents some unique challenges and problems which must be addressed.

Implementation Plan

Support from the Hospital Headquarters

The first step in the implementation of a QCP is that it must have the full support of top management. The Commander and Executive Officer of a military hospital must be prepared to engage in a participative style of management. It requires a change from the traditional top-down, boss-employee, parent-child management policies of the past to one where the workers are allowed to provide a great deal of input up to top management. This is a hard transition to make for many senior military

leaders, but it must be made if QCs are to be successful. Without the complete support of management through a participative style of management, QCs are doomed from the start. This is not to say that management is giving up its management perogatives but instead that it is opening up its doors to formal recommendations from the employee talent in the QCs. This team oriented approach is the lifeblood of a successful QCP. If the right supportive environment is created by the hospital headquarters, a good QCP will be nurtured and allowed to grow.

The Quality Circle Steering Committee

The next important step in the implementation of QCs is the establishment of a steering committee.[1] Because of the vastness and complexity of the modern hospital, a management body must be formed to plan, organize, implement, and evaluate the QCP for a military hospital. This committee will easily fit into the existing committee structure of the military hospital and should report directly to the Executive Committee of the hospital. A steering committee should consist of an organizational cross section of management including union representatives. The fact that the committee is composed of members from most major divisions of the hospital results in incorporation of the concept throughout the organization. The committee's charter is to manage and report on the QCP. It will be responsible for the fate of the entire program. Members should be chosen if possible on the basis of dynamic, forceful personalities. Each should possess leadership traits, enthusiasm and should be

willing to expend the necessary time and energy. Members should not be selected only on the basis of position, but should be chosen for the qualities which will enhance the QCP.

Committee size is important. An ideal committee will have from seven to ten members.[2] More than ten members can result in an unwieldy and nonproductive committee. Fewer than seven members may not generate enough input and might be susceptible to the influence of a single dominant figure. It is important that the Coordinator/Facilitator of the QC also be a member of this committee. Priority should be given to selecting staff personnel over line personnel. Line personnel tend to be less effective - because of their control orientation and they may have an adverse impact on the committee.

The steering committee is responsible for establishing program objectives and resources. They set the guidelines to monitor and measure progress and growth of the circles. A charter policy and procedure statement must be drafted. The committee will also serve as a source of expertise for the circles, and it may provide a base of power that assists the circles in accomplishing their tasks. Finally, it is the steering committee that will develop the specific implementation plan for the hospital.

The Quality Circle Coordinator/Facilitator

The next important step is to select a coordinator/facilitator for the QCP. This coordinator is the person who is the key to success of the QC. It is the coordinator who ties it all

together. The coordinator has the overall responsibility for the operation of the program and must therefore be a member of and work closely with the steering committee. The coordinator is directly responsible for the development, expansion, and operation of the QCP in the hospital. Other functions of the coordinator include: training leaders and members, coordinating between circles, and other organizations, encouraging non-members to join, scheduling team presentations, and maintaining records of all circle activities.[3]

The coordinator's educational background can be varied. However, the individual should possess the qualities of a good teacher, have a people orientation, be achievement motivated and have the capacity to recognize the contributions of others even though he had a major part in the accomplishment.[4] The coordinator should also have high credibility within the organization as well as the power and authority to get things done. Also, he should be a well organized self-starter and believe in participative management techniques. In addition, the facilitator needs to know the operating policies of the hospital--the ways in which to get things done. Most of all, the facilitator needs to know, understand, and like working with people.

Initially the coordinator will play the dual role of coordinator of the QCP and facilitator for the QCs. As the QCP grows, additional facilitators must be chosen and trained to work with the circles directly. These new facilitators will be training new leaders and members of the circles, facilitating

circles, and promoting circle activities. At this point, the coordinator will then turn his attention fully to managing and operating the entire QCP.

Planning for Implementation

Once the decision has been made by the hospital headquarters to implement a QCP, the steering committee must plan for the implementation. This is a very important phase which must be executed well if the QCP is to be successful. It will be a demanding period of strategy development and implementation planning. An adequate and consistent flow of information must be assured. Policies and procedures must be developed to determine what records will be kept, who will be responsible for them, and how accessible they will be to employees. The committee must review the literature and look at unsuccessful programs in other hospitals to gain insight as to why these programs failed and to learn from their shortcomings. The Barnes Hospital and Mount Sinai Medical Center programs can be used to provide a wealth of actual experience in a hospital environment.

One of the key decisions in the planning phase is to determine whether the hospital has the resources to develop its own training program or if the services of a professional consultant are required. It is important not to start a QCP with little or no information. A consultant usually brings in "hands-on" experience that will help anticipate problems. In addition, a consultant will normally provide excellent training materials

which are essential in giving employees a uniform, on going orientation to QCs. If the hospital acquires materials from a consultant, countless hours of research and development can be saved. On the other hand, a consultant can cost from $10,000-$20,000 with training materials costing an additional $3,500. There are now numerous training materials available through the U.S. Army and Navy. An Army course is even available on QCs. A decision must be made on whether the training program will be developed by the hospital or purchased from a consultant. Recently, Barnes Hospital received official designation as a licensee of Quality Control Circles, Inc., Wayne Rieker's company. As such, Barnes is rewriting the training materials to make them fully applicable to the hospital setting. They will be available to consult with hospitals in developing QCs, both in the initial start-up phase and in the later follow-up stages.[5]

During the planning phase, the steering committee must decide if the program will be hospital-wide or restricted to certain areas. The committee decides what areas will be selected for trial or pilot circles and how large these circles will be. A decision must be made on how leaders will be chosen and from what level of the hospital organization they will be drawn. Circle membership should seek a fair proportion of different types of work section personnel.

In a military hospital, the planning process is very critical. A military organization is sometimes resistent to changes and

new ideas. This creates a special need to be very careful in selecting the pilot circle for the hospital. Success with a pilot circle will breed success throughout the QCP. The very best indorsement is the word of mouth satisfaction from circle members. The experience of other hospitals has shown that it is best to use a production oriented area of the hospital for the pilot study. Examples of the best areas to utilize for a pilot study are food service division, patient administration, or housekeeping. These areas are less subjective in their measure of success. They deal in meals served, outpatient records filed, and square footage cleaned. This is the best approach because improvements and success can more easily be measured. Results are more tangible. The key point is that one must set up the very best conditions for possible success in the pilot circle.

One key feature of QCs that is especially crucial to a military hospital is its adaptability to the existing organizational structure.[6] QCs will exist alongside the chain of command and can be integrated with the managerial structure. It's not necessary to turn the organization upside down. The same basic chain of communication and administrative command can be followed. This is a very appealing feature for the military hospital.

For example, a pilot circle in the outpatient records section might consist of a circle leader who is the civilian supervisor for the outpatient records section. This pilot circle might

consist of approximately 8-10 volunteers from this work section. It would normally consist of civilian employees who are directly involved in working with outpatient medical records. This circle would operate through the normal chain of command with its recommendations and management presentations.

Once a pilot circle has been selected by the steering committee, the important process of choosing and training the circle leader begins. Circle leaders generally are firstline supervisors trained to facilitate the circle meetings without dominating them. Clearly, circle leaders must be chosen carefully. They must be skilled in preventing their supervisory role from inhibiting employee interaction and contributions, and they must have good relations with their employees. It is once again important to note here that the best QC in the world will not cure a bad organization or poor management. This, therefore, highlights the importance of careful selection of the pilot circle leader.[7] This leader can be an officer, noncommissioned officer, or civilian supervisor depending on the work section. In addition, it is quite important that this person should be a volunteer like the circle members. A volunteer circle leader with a belief in participative management and the growth of his personnel would be the ideal choice.

The training of the pilot circle leader can be done by a consultant or the coordinator of the QCP. A typical training program usually includes three days of training on the QC techniques and how QCs are operated.[8] It gives supervisors an

orientation and opportunity for actual experience in small-group discussion and problem-solving techniques. The most important thing that can be taught to the circle leader is to identify not only the problem, but also its causes and practical solutions. QC leaders are taught to encourage a free flow of ideas - brainstorming - before letting the group zero in on a single issue, and to emphasize data-gathering and documentation. They also become familiar with cause-and-effect diagrams, checklists, graphs, and other audiovisual tools that can be used to keep discussions on a focused path.

Before the pilot circle is organized, it is important to develop some baseline performance measurements from the work section. This will provide a reference point for the evaluation stage. For example, in the outpatient records section a performance indicator might be the number of outpatient records filed. This must be measured before the pilot circle is established.

When all aspects of the QCP have been studied, and when the facilitator and leader of the pilot circle have completed their preliminary training, the QCP is ready for the actual implementation phase.

Implementation of the Quality Circle Program

A pilot circle should be organized and provided an opportunity to work. This circle will normally meet once per week during normal duty hours for about one hour. The circle will utilize the many QC techniques available to identify a problem and then

to analyze and solve the problem. The leader must be sure to caution against the too-quick solution.[9] The circle members must always attempt to thoroughly and objectively analyze the problem before determining a solution. Once a solution has been found, the circle must prepare a formal presentation to management. The basic dynamics and techniques for the QC will be the same in a military hospital as in other settings even though the problems will be very different. For the pilot circle in the outpatient records section, this would normally be given to the Chief, Patient Administration Division. The process of identifying and solving the first problem may take the pilot circle many weeks. The steering committee and hospital headquarters must be patient and let the QC process work. After the pilot circle has solved a few problems in the work section, the steering committee can begin to evaluate the success of the pilot circle. The evaluation of the QCP will be discussed in detail later. If the pilot circle is judged to be a success after about six months, the QCP can then be expanded into other areas of the hospital. It should be noted that the hospital can start with more than one pilot circle if it desires, and expansion to other areas of the hospital can begin at anytime the steering committee or Commander feels that the QCP is worthy of expansion.

Expansion of the Quality Circle Program

To properly propagate the QCP, adequate publicity must be given to QC activities throughout the hospital. The first step

is to promote the success of the pilot QC. This can be done through the hospital bulletin, group presentations, or committee meetings. Efficient channels of communication are essential to the QCP. As QCs expand into other areas of the hospital, it is critical to keep management, union(s), and all employees informed on the important contributions the QCP is making to the hospital. Keeping management informed is especially important. One method is committee-generated reports on the status of objectives and accomplishments. An alternative may be regular meetings with department chiefs. This approach gives management the opportunity to express its concerns. Keeping all avenues of communication open minimizes potential problems and helps to maintain management support.

The union(s) must be kept informed at all times on the QCP. Past experience with unions has generally found them to be very supportive of a QCP if they are involved in the process. Once the union realizes that the goal of the QCP is "people-building" and not to meet the selfish interests of management, there is usually no difficulty.

Open communications must also exist between individual circles and all other company employees. Non-circle members and other circles should hear about circle activities and progress. The steering committee might initiate a special section in the hospital bulletin or make periodic "news" announcements over the public address system. The most effective means of communicating to a broad audience might be the dissemination of a newsletter devoted to the QCP. A newsletter

can generate enthusiasm and add credibility to the hospital headquarters' support. By whatever means that it is communicated, QC news should be current and pertinent.

To permit an orderly and coordinated expansion of the QCP, additional facilitators and leaders must be trained to run the additional circles. This will eventually require a hospital training program even if a consultant was initially used for training. A QC training program requires a commitment to an extensive training program which will meet the future needs for facilitators and circle leaders. There will be a continuing requirement for three day training sessions. This is especially true in a military hospital because of the transient staff and frequent personnel changes. One facilitator can normally handle up to five circles at one time.[10] Each new circle leader will need the three day training course. If a consultant was utilized, he will normally be able to provide counsel and guidance on setting up the hospital's training program. Training materials can be obtained from the consultant. This is the easiest and quickest way to institute a training program. A good training program is critical to the long-term success of the QCP. This is because lack of training in QC techniques has been identified as a leading cause of circle failures.[11] In a military hospital, the QC training program might be coordinated by the Plans, Operations, and Training Division utilizing personnel assets from many areas of the hospital such as nursing, social work, and administration.

The selection of areas of the hospital in which to expand the QCP is an essential consideration. This must be handled carefully with attention to those areas that are most receptive to the QCP. The steering committee should develop a plan for show, coordinated growth of the QCP. The emplasis is on orderly expansion which can be properly supported by the hospital's training program. The addition of too many circles, too quickly can be disasterous. The goal is to give each circle the very best chance for success. Mass failure of haphazardly formed circles can spell doom for the entire QCP. At Barnes Hospital, eight QCs were formed originally. Five of them were established in departments which parallel industry, dietary, laboratory, housekeeping, security, and education/training. As with the selection of the pilot circle, this was done to draw on the past experiences of others with QCs. The real challenge for Barnes was the additon of three Qcs on nursing units. These were Gynecological Nursing, Surgical Nursing, and cardiothoracic OR. This has not been easy. Ideally, a QC should be made up of people from the same work area or people who do similiar work, so the problems they select to deal with will be familiar to all. In the case of nurses, they are part of a patient-care team that includes physicians. Experience at Barnes has shown that it is difficult, if not impossible to get nurses and doctors together in the same circle. There is also a scheduling problem. Because nurses work varying shifts, it is often hard to get the same group together the same time every week. Despite these fiffi-culties, Barnes is making their nursing QCs work.[12]

The phasing of new circles into the QCP should be from production oriented work sections to patient oriented work sections. In a military hospital, the first circles would normally be in Patient Administration, Food Service, Comptroller, Logistics and other administrative areas. As success is built in these areas, circles should be added in patient oriented areas like nursing units, clinics, and departments. There are no specific time frames which can be set for phasing in new circles. The key is to go slow and build on success. The QCP will sell itself as the first circles begin to work and show positive results. Those areas of the hospital most receptive to the QCP should be given priority for starting a new circle. Those supervisors who show greatest interest and desire to participate should be given special consideration for circle leader training. Again, the addition of new circles must keep pace with the QC training program. There is potential for the QCP to expand into all areas of the hospital.[13] The expansion of QCP is only limited by the willingness of the hospital personnel to participate. A QC made up of physicians is not impossible. In fact, this has a much greater chance to work in a military hospital because most physicians are officers on active duty assigned to the hospital. This is a much more conducive situation than civilian physicians on a medical staff in a civilian hospital. From janitor to physician, the QCP has potential to meet the needs of the hospital and its personnel.

The Quality Circle Program Life Cycle

After the QCP has expanded into most areas of the hospital, it will reach a point when the implementation period is over and the QCP Life Cycle begins. This is the period when the QCP is allowed to stabilize and mature. The steering committee can now settle into the role of overseer at this time. For the individual circles, this will become a very active phase of development and refinement of their problem solving skills. Many older circle members will depart, and new members will be trained. This is the time for real progress and benefit when the QCP really pays for itself. It is the goal of every QCP to reach this point and to continue to meet the needs of the hospital and circle members. Hopefully, the QCP will reach an equilibrium which will make it self-perpetuating.

Evaluation of the Quality Circle Program

Once the QCP has been implemented, there will be a continuing need to evaluate its success. This is important to provide the necessary follow-up and feedback to assure that the QCP stays on track with the initial objectives set by the steering committee. Evaluation must be seen as an integral part of the QCP to insure that the program continues to meet the needs of the staff and the hospital.

The evaluation process must begin with the planning for the implementation of the QCP. The baseline performance factors must be established in the areas where circles will be established.

The steering committee must lay the foundation for future evaluation of the QCP. As with any new military program, the viability of the program may depend on a cost/benefit analysis at sometime in the future. It is, therefore, incumbent upon the steering committee to build a data base of cost and performance information which can be used to evaluate the program.

Because the QCP is focused on long-term objectives and not short-term results, the evaluation process may require months or even years to show the improvements and permanent dollar benefits desired. This again accentuates the need for a well planned evaluation process that will collect data on the QCP from the beginning for future use.

There is also the important consideration of the dicotomy of benefits that may be received from the QCP. An understanding of the tangible and intangible benefits is central to the evaluation process. The tangible benefits such as an actual reduction in the costs of operation are fairly straightforward, but the intangible benefits such as more effective teamwork or improved service quality are much more difficult to get a handle on. An effective evaluation process must attempt to measure both types of benefits.

There are three basic criteria to evaluate the success of the QCP. They are: (1) a cost analysis of the QCP, (2) work performance indicators to measure improvements in quality, production and efficiency, and (3) surveys to evaluate improvements in the intangible areas such as teamwork, motivation, attitudes, and morale.

Cost Analysis

A cost analysis of the QCP will consider all costs of the program. It will first consider the cost of the consultant if one is used in implementing the QCP. This would normally run between $10,000 and $20,000 to cover the cost of the consultant and trainer fees, and $3,500 for training materials. In a military hospital, the comptroller division is best equipped to handle this part of the evaluation. If training materials are developed by the hospital, a cost estimate must be provided to cover the development and reproduction costs of these materials. A military hospital can utilize the Uniform Chart of Accounts cost information as a basis for the cost analysis. This will permit an estimate of the costs associated with the training sessions for facilitators and leaders. In addition, a cost may be determined for the weekly QC meetings depending on the size of the circle. It is important that individual cost data be kept on each QC so that any future cost/benefit analysis can be done by individual circle if desired. All duty time utilized for the QCP should be accounted for as a cost. The careful and accurate collection of all cost data associated with the QCP will help immensely in any future requirements to justify the program. Tangible benefits in the form of dollars saved can easily be compared against the costs of running the program.

Work Performance Indicators

The evaluation of improvements in quality, production, and efficiency in hospital areas requires the use of work performance

indicators. A work performance indicator is a measure of work in an area of the hospital that shows a level of performance for that work section. For example, in the pharmacy a work performance indicator might be the number of prescriptions filled without error. In the outpatient medical records section, a work performance indicator might be the number of unfiled medical documents on hand at any given time.

The use of work performance indicators in the evaluation system will provide a tangible means to measure improvements in the work section. A critical aspect for this part of the evaluation is to record a baseline measurement of all work performance indicators before a QC is established in the work section. This will provide a good basis for comparison after the implementation of the QC. Improvements can be easily documented and utilized to support the QCP in the future. A word of caution should be given in establishing work performance indicators. The work performance indicators should be selected carefully to reflect the true performance of the work section and not to observe unimportant aspects of the job. An example of some of the work performance indicators utilized by outpatient medical records in a military hospital are provided at Appendix E.

Work performance indicators are clearly more appropriate for a production oriented area of the hospital like pharmacy or outpatient medical records than for nursing units. The use of work performance indicators must be tailored to the areas of the hospital where they are most appropriate. When not appropriate, they should not be utilized.

Surveys

The evaluation of the intangibles such as improvements in attitudes, teamwork, motivation, leadership and morale can generally be measured by administering surveys designed for the purpose. The normal technique is to administer a presurvey and a postsurvey to the work section. A presurvey is given to all personnel in the work section before the QC is established. This, again, provides a baseline response level of the work section to be used for later comparison. After the QC has been working for six months, a postsurvey should be administered to determine any improvements in those intangible characteristics that were being evaluated. Additional surveys may then be administered periodically to monitor the improvement or decline of these intangible factors. There are many survey forms available for this purpose. In the United States Army, these surveys are available from the Organizational Effectiveness Office on each installation. An example of a survey that might be utilized is provided at Appendix F. A statistical analysis can be done on the changes in responses to the surveys over time to provide a valid, measurable basis for improvement in this area of evaluation. This type of measurement would normally be sufficient for most military hospital applications. However, if a need for a more exacting experimental design is required, control groups could be established against which the performance of the primary QC groups could be compared.

Evaluation Results

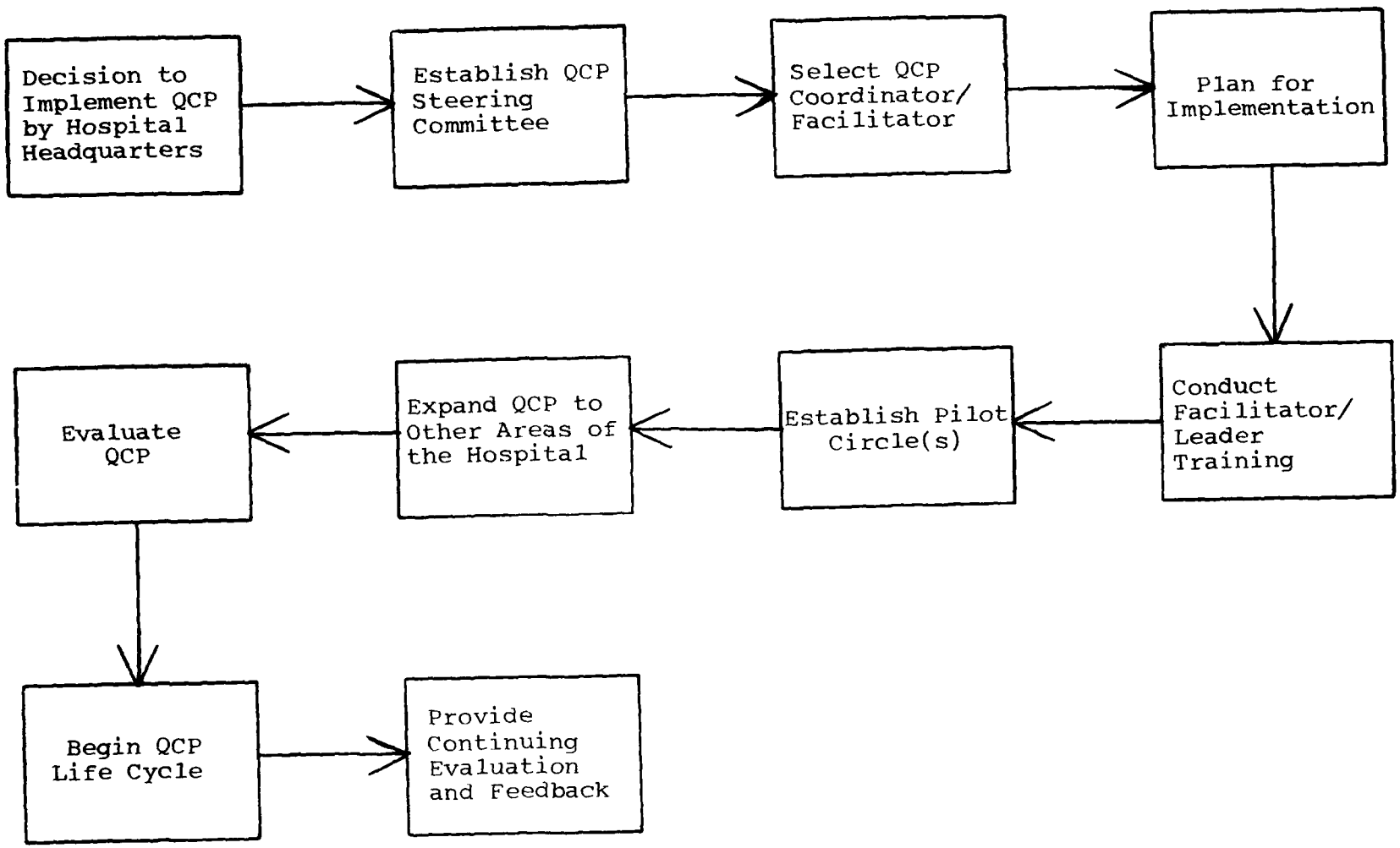
The evaluation of hospital QCPs is still in its infancy. Both Barnes Hospital and Mount Sinai Medical Center admit it is too early to quantify the results of their programs. Quantifying productivity and quality in a hospital is much more difficult than quantifying the productivity and quality of a factory turning out autos, computer chips or steel.

Some U.S. companies that have introduced QCs in the last four or five years are reporting they improved productivity by as much as 40%. By the end of 1977, Lockheed estimated that circles had saved $3 million or 6 times the cost of operating the circles. If reports of productivity increases and quality improvements from companies like Ford, American Airlines, 3M and others serve as a yardstick, the return on QCPs can turn out to be surprisingly high. One manufacturer reports that a method for handling erroneous supply shipments developed by a QCC in its supply department has resulted in an annual documented savings of $636,000 a year. Finally, Eastern Airlines says that within three-and-a-half months after instituting a QCP, savings through improvements developed by the QCs exceeded $1 million.

If military hospitals can hope to achieve even a fraction of this success, they may well be worth the cost and effort. In addition to the tangible benefits, the intangible improvements of better morale, improved communications at all levels up and down the line, a reduction in conflicts between employees, supervisors and management, and improved quality alone may

justify the QCP. Despite the benefits, there is a definite need to have a well planned evaluation system that will provide all the necessary data to judge the success or failure of the QCP.

FIGURE 1. THE IMPLEMENTATION PLAN



FOOTNOTES

[1]Joe Hanley, "Steering Quality Circles," Quality (December 1981): p. 52.

[2]Ibid., p. 52.

[3]SFC Ronald B. Konarik and SSG Wayne Reed, "Work Environment Improvement Teams: A Military Approach to Quality Circles," Quality Circle Journal (May/June 1981): p. 97.

[4]Ibid., p. 97.

[5]Dian Sprenger, "Circles," Missouri Hospitals 6 (Summer 1981): p. 19.

[6]"'Participative Management' May Hold Key to American Worker Output," Cost Containment Newsletter (September 1981): p. 4.

[7]Wayne S. Rieker, "Trip Report for Study of Quality Control (QC) Circles in Japan--November 1973," Sunnyvale, California. (Typewritten.): pp. 11-12.

[8]Dian Sprenger, p. 15.

[9]"'Participative Management' May Hold Key to American Worker Output," Cost Containment Newsletter (September 1981): p.4.

[10]Dian Sprenger, p. 18.

[11]Rieker, p. 11.

[12]Dian Sprenger, p. 15.

[13]"'Participative Management' May Hold Key to American Worker Output," Cost Containment Newsletter (September 1981): p.4.

[14]Ibid., pp. 5-6.

III. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The QC concept has come a long way since Dr. Ishikawa gave it birth in 1962. It has left an enviable record of success along its trail from Japan to the United States. It has documented its significant worth in American Industry, in military applications, and now stands ready to attempt similiar accomplishments in hospitals. The experiences of Barnes Hospital and Mount Sinai Medical Center have shown that QCs have great potential for hospitals. The jury is still out on the final contribution QCs will make in health care. Military hospitals now have an opportunity to participate in this exciting development. They have a unique chance to improve their organizations and build up their personnel at the same time.

One of the keys to a successful QCP is in the proper implementation of the program. This Graduate Research Project has provided a detailed and organized plan to implement QCs in a military hospital. It has attempted to consider the uniqueness of the military hospital environment. Because QCs utilize a universal principle of human behavior, they will work in almost any environment if properly nurtured, fully supported, and correctly conducted. It is the author's hope that military hospitals will take this implementation plan and put it to

work for the betterment of their health care organizations. Concomitantly, the evaluation of a QCP is an integral part of the entire program which must be considered before a QCP is implemented. If the evaluation system is properly utilized, it should provide all the support data necessary to insure the perpetuation of a well implemented QCP.

Recommendations

It is recommended that the implementation plan and evaluation system be followed by those military hospitals who desire to utilize a QCP.

APPENDIX A

QUALITY CIRCLES

INTRODUCTION TO QUALITY CIRCLES

INTRODUCTION TO QUALITY CIRCLES

WHAT ARE QUALITY CIRCLES?

Quality Circles/Quality Control Circles/Participative Work Improvement Circles, etc., are all names for a participative management technique that involves the workers in the solving of work related problems. The basic concept is that productivity improvements come not only from technological change, but also from greater employee motivation and involvement in work. Quality Circles (Q.C.'s) are small groups of volunteers from the same work area who meet on a regular basis to identify, analyze, and solve problems they encounter in their work environment.

HOW DID QUALITY CIRCLES START?

Quality Circles were first developed and used in Japan after World War II. General Douglas MacArthur requested help from the American academic community and private business to assist Japan in rebuilding its war-torn economy. Two American experts in Quality Control spent time in Japan teaching and helping the Japanese implement quality control concepts. Dr. W. Edwards Deming taught statistical control techniques and Dr. Joseph Huron taught the concept of total quality control. However, Dr. Kaoru Ishikawa is credited with starting the first "Quality Control Circles" and registering them with the Japanese Union of Scientists and Engineers (JUSE) in 1962. The QCs marry the quality control techniques with the teachings of behavioral scientists such as Maslow, McGregor and Herzberg.

The Quality Circle philsophy was an outgrowth of a concerted national effort to change the image of Japanese products. For those of you too young to remember, the attitude about Japanese products was completely different in the 1950's and 60's from what it is today. "Made in Japan" in those days was a warning sign for cheap items of poor quality. Today, however, the attitude is very different. How did this remarkable change occur? There are many factors, national tax policy, employment patterns, worker attitudes, etc., but the Japanese believe that the major factor was the Quality Circle concept and its use. Many will argue that the cultural and industrial difference between the US and Japan are the significant reasons. However, these factors have remained relatively unchanged in Japan during both the period of poor quality , low productivity and during the current period of high quality and productivity.

Therefore, something else must have influenced the quality and productivity rates and the Japanese believe it was Quality Circles.

WHY QUALITY CIRCLES?

This is a time when America is going through a self-examination period to determine what can be done to reverse the downward trend of our productivity rate. The U.S. is in a crisis according to both productivity and economic consultants. Private industry cannot continue to compete in the market place with inferior products put together with expensive hands and indifferent minds.

Likewise the Federal Government cannot continue to see costs continually rising and productivity dropping. Management can no longer afford to turn a deaf ear to employees' demands for more satisfying work and personal dignity.

The QC concept is emerging in the U.S. at precisely the time it is needed. We need to involve the worker in the problems facing us today. Quality Circles are not a panacea, but a combination of known management concepts that work. The reason for QC acceptance is - they work!

EVOLUTION OF QC'S IN THE U.S.

The first successful usage of the QC concept in the U.S. occurred in 1973 at Lockheed Missile and Space Company. Lockheed was convinced that the concept worked in Japan and decided to try the concept without Americanized variance from the Japanese model. Their managers had toured Japan and found that Japanese QCs had solved problems that had baffled professional engineers for years. They were also convined that the earlier failures had not recognized that the behavorial scientists did not differentiate, by culture, the factors that motivate people. They implemented their program very closely along the lines of the Japanese model and by 1977 had documented that QCs had saved three million dollars with a ratio of savings to cost of six to one.

By 1977 only five companies were involved in QC programs. This grew to 15 companies during 1978 and to approximately 80 during 1979. The Federal Government had two program in late 1978 and early 1979. By the end of calender year 80 at least 13 Federal agencies (10 were defense) had programs. During 1980, private industry programs exploded with approximately 400 companies involved in QC programs. Mr. Don Dewar, President of the International Association of Quality Circles, projects that by the end of 1981 there may be as high as 1,500 companies with programs. The following companies are among those using QCs: General Electric, Westinghouse, IBM, Hewlett Packard, Armstrong Inc., Ampex, Xerox, Hughes, Boeing, Lockheed, Uniroyal, International Harvester. The following Federal agencies have programs: Federal Aviation Administration, Office of Personnel Management, Defense Logistics Agency, Naval Shipyards, Air Force Logistics Command, Army Depot Systems Command, Automated Logistics Management Systems Activity. The QC concept seems to be growing rapidly

throughout the Federal Government and private industry as a productivity enhancement technique. The life of the program appears to be indefinite, however we must continually stress the basic concepts that make it successful.

THE QUALITY CIRCLES CONCEPT

The concept of Quality Circles recognizes the intelligence and creative capacity of people doing the work. It affirms that management believes the individual doing a job knows more about it than anyone else, and can suggest the changes for improving it. This approach taps the creative intelligence of the employees and provides them the means to use their minds, not just their hands. Quality Circles differs from the participative management ideas tried in the 1960's. Circles work with management in solving problems, however the acceptance or rejection of solutions rest solely with management.

Quality Circles require both training and recognition to insure their successful operation. Quality Circles are a "people building" not a "people using" concept. This concept inspires more efficient teamwork, promotes job involvement and increases employee motivation. Quality Circles develop both harmonious manager-employee and employee-employee relationships and help improve communications within the organization.

WHY QUALITY CIRCLES WORK

In the early 1970s, a major study supported by the U.S. Department of Health, Education and Welfare reported that the most consistent complaint of Amercian workers was the failure of supervisors to listen to them when they wished to propose better ways of doing their jobs.

Dr. C. Jackson Grayson, Jr. chairman of the American Productivity Center, in a Time magazine article stated "I've heard all the rhetoric about we-don't-want-to-work-hard-anymore, and I don't believe it."

Using Maslow's hierarchy of needs, the QC concept appeals to the individual's need to belong, to be able to make a significant contribution through Circle problem solutions. It appeals to the higher level self actualization needs, as Circle activities contribute greatly to personal growth and provide challenges, demanding creative expansion of capabilities. There are no human characteristics more powerful than building self respect, self reliance, competence and the admiration of others.

All these needs can be satisfied through work. Most people will take more pride and interest in their work if they are allowed to influence decisions made about their work and Quality Circles provides just such a vehicle.

THE QUALITY CIRCLE PROCESS

Quality Circles are small groups of employees and their supervisors who volunteer to meet regularly during duty hours to identify, analyze and solve problems in their work area. They present solutions to management and whenever possible, they implement their solutions. The objectives of the Circles are to reduce error and to enhance the quality of goods and services provided by members of the Circle. Problems for a Quality Circle to work on may be identifed by anyone; Circle members, management, other organizations, etc. Problem selection, and this is vital for success, is the sole prerogative of the Circle members. Management may not dictate which problems Circles will work on. Through the training they receive in problem solving techniques, Circle members analyze causes for existing problems and when necessary, call upon technical specialists from outside the Circle to provide them with information that members may not have access to. Care must be exercised to assure that the specialist does not solve the problem for the group, but only assists them in finding their own solution. Circles will then develop a presentation for management, outlining their analysis and solutions. This presentation will then be given by the circle to the level of management that can approve their solutions. Where possible, the Circles will implement their approved solution and will validate the resulting improvements.

Management never gives up its authority in the QC process. The decision to accept or reject any Circle proposal remains a management function. However, if management rejects a Circle proposal, the circle must be given valid, logical reasons for the disapproval. Failure to provide these reasons in a timely manner will destroy the spirit of cooperation between management and the Circle.

OPERATION OF QUALITY CIRCLES

HOW DOES THE QC CIRCLE PROGRAM OPERATE?

Supervisors and Managers are introduced to QC Circles.

The Supervisors are then trained in the techniques of organizing, training, and maintaining QC Circles. The supervisors, as QC Circles Leaders, then present the program to their people. The potential Circle members are then asked to volunteer for membership.

Each Circle is formed of people who do similar work. The Circle members meet weekly with their leader.

The first few meetings of a Circle are spent familiarizing the members with the basic QC Circle techniques in which the Leader has been trained. Using their new skills, the Circle members then identify problems in their work areas, which they wish to solve.

They conduct research, investigate within their scope, and request assistance from other organizations for those areas beyond their scope. Once they arrive at a viable solution of the problem, the QC Circle presents their findings and recommendations to Management.

WHERE DO MEMBERS COME FROM?

Members of a Circle are all from the same work area so that the problems they select to work on are familiar to all of them. The membership is strictly voluntary. No one is forced to participate, and no one is kept out.

HOW MANY MEMBERS ARE IN A CIRCLE?

The ideal size is six to eight people, but can vary from four to fifteen. The Circle should never be so large that each member cannot have sufficient time to participate and make their contribution in each and every meeting.

HOW MUCH TIME IS SPENT ON QUALITY CIRCLE MEETINGS?

Meetings are held once a week for one hour. Ample time should be allowed for the Circle to adequately conduct their meeting.

WHAT GOES ON IN A CIRCLE MEETING?

Many activities may occur during a meeting. Identification of a theme or problem to work on, analysis of a problem, or the preparation of recommendations for the solution of a problem. All the activities of a Circle are directly job related. Circles are encouraged to establish an objective and develop a plan to achieve it. The plan is broken down into objectives so that progress can constantly be monitored by the Circle.

WHO IDENTIFIED PROBLEMS FOR THE CIRCLE?

Problem identification can come from management, staff, technical experts, Circle Members, etc. Problem selection; however, is strictly up to the members of the Circle.

WHAT IF A CIRCLE PROJECT OVERLAPS INTO ANOTHER ORGANIZATION?

This should be avoided when possible. Circles generally have enough problems to work on in their own areas; however, if it does happen, the Circle coordinates their efforts through the Facilitator. Management of all affected organizations is kept advised of Circle activities at all times.

DO THE CIRCLES USE THE SERVICES OF SPECIALISTS?

When a Circle needs the help of a specialist, the support organization is requested to assist in solving the problem. Care must be taken to insure that the specialist does not solve the problem identified by the Circle on his/her own. If this is allowed to happen, the Circle will never learn to solve their own problems. The specialists are asked to assist the members in solving the problems they have identified, to work with them, not to solve the problem on their own.

WHAT IS A FACILITATOR?

The Facilitator is the individual responsible for coordination and directing the Quality Circle program within a given organization. He/she is responsible for training the Circle Leaders and Members, and forms the link between the Circles and the rest of the organization.

WHAT ARE THE DUTIES OF THE FACILITATOR?

· Responsible for developing, initiating, monitoring and evaluating Quality Circles.

· Coordinates circle meetings, arranges for appropriate facilities and equipment.

· Attends and assists Circles during meetings.

. Arranges for necessary data to be available for problem solving (extracts information from reports, records, regulations, etc.).

· Assists Circle in preparing reports containing proposed solutions to the appropriate level of supervision.

· Provides for or arranges for training for Circle leaders and members.

· Develops and maintains records of QC meetings and projects for reports to management on the progress of the QC Programs. (Verbal report each month).

· Provides the necessary coordination between the circle and the appropriate management levels in the organization and the QC Program.

QUALITY CIRCLE PROJECTS

HOW ARE PROJECTS SELECTED?

The problems-identification can come from management, staff, specialists, and/or Circle Members. However, problem selection is strictly up to the members of the circle. The members vote on which problem they will solve. The facilatator will help guide the Circle, with the help of the Circle leader, in problem selection to insure that the problem can be solved by the Circle.

HOW ARE PROJECTS APPROVED?

The Circle will present the problem solutions or recommenation(s) to the appropriate level of management. Management will decide if the recommendations are to be implemented. The circle will implement approved recommendations where possible. When management does say no to a recommended solution, they provide the Circle with the reasons the solution wasn't implemented. The Circle can then re-evaluate their solution and decide to recommend a different alternative or drop the problem and select a different one for analysis.

SUMMARY

WHAT ARE SOME OF THE CHARACTERISTICS OF A SUCCESSFUL PROGRAM?

The interest and continual support of management is essential to the survival of any Quality Circle program. Management must believe that an investment in people building is worthwhile. The entire Quality Circle concept is based on trust, respect, and caring. People building is helping people become better than they already are. Management must believe that the people have the ability to develop and grow. Training must be provided and management must have the patience to allow all this to happen. Most working people have never in their lives been asked to truly participate in the "system" and must be granted time to learn to cope with this responsibility. There is no short cut to success. Management must have confidence, trust, and patience. Quality Circles is a technique that can restore to the Federal Employees attitudes which many think have long been lost. When fully implemented, Quality Circles creates in the individual a sense of participation and contribution. This technique recognizes the individual worker as a human being with the ability and desire to participate in solving quality problems.

Where the QC concept and rules have been strictly adhered to, QC's have flourished. When a relaxation of the guidelines has occurred, a corresponding decline in the Circles has resulted. When QC's are allowed to operate without undue management interference they sell themselves and produce real cost savings. When management has attempted to tamper with the inner workings of the circle, the circle has failed to solve any meaningful problems. QUALITY CIRCLES WORK ANYWHERE PEOPLE WORK.

KEY POINTS

Selection of the facilitator is the most important decision that will be made in establishment of a QC Program. The person must be able to work at all levels, must be creative and above all must be able to work well with people.

Management support is required. Union support should be solicited.

The program must be voluntary but management should provide encouragement in establishing circles.

Circle members must feel free to work on problems they choose to work on (with established limits).

The facilitators must keep management informed of problems circles have selected to solve and on the progress circles are making.

Quality not quantity should be of first consideration. Expansion will come of its own accord as word of mouth spreads success stories.

The Quality Circle concept has high potential for improving quality and productivity.

Adherence to the quality circle concept and procedures is mandatory for a successful program. A major function of the facilitator is to assure that procedures are followed. Relaxation of procedures will cause circles to be nonproductive and eventually to disband.

Once a solution to a problem has been approved by management, the facilitator must follow-up on implementation to insure that the solution is carried out. Solutions which have been approved and are not implemented or are not implemented as proposed will destroy all positive gains made from the program.

APPENDIX B

QUALITY CIRCLES

PROBLEM IDENTIFICATION

AND

SELECTION

PROBLEM IDENTIFICATION AND SELECTION

INTRODUCTION

The Quality Circle concept is one of group problem solving and in our case one of solving a work related problem. So naturally the following questions arise, "Which problem?" and "Who decides?" On a more intimate level all of us make decisions on a daily basis about problems that affect us. While we are comfortable with making decisions for ourselves or our families, decision making in the Quality Circle will present a new experience for most people. Determining the first problem for which your Quality Circle will find a solution will probably be your first quality-oriented group decision.

DECISION MAKING IN THE QUALITY CIRCLE

Quality Circles try to arrive at decisions by consensus. Consensus means that the whole Quality Circle agrees to the decision. Consensus is preferable to majority rule or lottery as a solution method. However, the group may have to rely on majority rule as group consensus may not be possible. What is important is that every member should contribute as each of us view problems with a different perspective. It means that those of us who are shy should try to participate, or that those of us who are outgoing shouldn't try to ram our opinions through. However, once the group has reached a decision, all members of the circle should give their support to the idea.

SELECTING A PROBLEM

Determining the first problem for which your Quality Circle will find a solution will probably be your first experience in problem selection and group decision making. The first step we take is to reduce the number of problems from which we are trying to select. One of the basic concepts of Quality Circles is that the group will develop solutions to work-related problems. Therefore, if the group listed non-work-related problems these can be eliminated. The second step may be the grouping of like or similar problems that may be solved with a common solution. The problems may further be ranked according to their complexity, cost, age (which has existed the longest) or sequence (Does problem one affect problem 2?). The Quality Circle may find the use of a graph to show the relationship of each problem to the base you have chosen. The use of a Pareto diagram showing expected benefits to cost may be useful. However, the group may decide to rank the problems based on their own priority and select the one that they "feel" is most important without regard to the previous steps.

SUMMARY

Keep in mind that your charter with management is to solve problems in your work area. It is recommended that the first problem selected be an easy-to-solve problem. This will give your Quality Circle the opportunity to learn to work as a team, use the Quality Circle techniques, and be successful in your first effort. Success is a habit and early successes will give you confidence in skills and ability as a Quality Circle. As you learn and develop confidence the Circle will begin to select the more complex problems you have identified. Remember that the Quality Circle will eventually solve all the problems it has identified.

APPENDIX C

QUALITY CIRCLES

MANAGEMENT REVIEW

MANAGEMENT REVIEW

INTRODUCTION

A Management Review is a presentation, of the results of your Quality Circle's effort, made to management affected by your efforts. This review provides the Quality Circle the opportunity to communicate to management the progress and improvements that the Circle has made. These reviews not only provide you with the opportunities for you to make presentations to effectively communicate with management, but it also provides you with the opportunities to gain recognition for your success.

OBJECTIVES OF THE MANAGEMENT REVIEW

The objectives of management reviews are to:

- Communicate your achievements
- Gain approval for your proposals
- Gain recognition for your successes

Accomplishing the objectives of the management reviews are important for the continued success of your Quality Circle and will help you gain the continued support and approval of management.

SHOULD YOU HAVE A MANAGEMENT REVIEW?

Before planning a Management Review, your Quality Circle should first answer the question:

Why do we want a management review?

In answering this question you should consider an achievement that your Quality Circle is proud of and wants to talk about. Other reasons for having a management review would be if the problem resolution must be undertaken by management or if the resolution must be approved by management before it is undertaken. After establishing that you are ready for a management review you are ready begin preparations for the review. There are three main phases to a Management Review. These three phases are:

- Preparation of the study
- Rehearsal of the study
- Presentation of the study

1. PREPARATION OF THE STUDY

In the preparation of the Management Review your Quality Circle should consider several important steps:

a. Determine who will participate. Several groups of people will be involved in a review.

(1) All members of the Quality Circle should participate in developing the materials to be used and in the actual presentation.

(2) One or more levels of management, depending upon which levels are required or concerned with approval of the problem resolution.

(3) Any additional individuals who have an interest in your activities.

b. Schedule a meeting for the participants. The Quality Circle should request a Management Review and establish a scheduled meeting date and time of day in agreement with participants (managers, Q.C. members, etc.). A Management Review should last about 30 minutes and should be scheduled as soon as your choice of managers is available.

c. Schedule a location for the meeting. Your selection of a meeting area should include consideration of; quite surroundings, adequate tables and chairs, and sufficient room for display charts and graphs. The area should be arranged so that the visual aids and the speakers can be seen from every seat.

d. Determine what to discuss. When planning what to discuss, the Quality Circle members should consider their achievements, progress and accomplishments. The discussion should consider including:

(1) A statement of the problem.

(2) An explanation of why it is important. (Examples: because it lowers cost; because it increases productivity, etc.)

(3) An explanation of how you approached solving the problem. Consider showing the tools you used in your efforts. (Examples: brainstorming, cause and effect diagrams, Pareto diagrams, etc.).

(4) An explanation of the payoff. Consider including resulting cost savings, improvements to the schedule, performance improvements, etc.).

e. Who will make the presentation? Your Quality Circles success to this point has been as a group. Therefore, you will make your presentation as a group. The Quality Circle should select a leader to open the discussions, introduce the Circle, and, after each member has participated, to close the meeting.

f. Prepare materials for the presentation. To insure that the meeting flows smoothly, the following materials should be prepared ahead of time.

(1) A meeting agenda that identifies the topics and speakers.

(2) Visual Aids that illustrates points you desire to cover.

(3) A script emphasizing achievements, progress, accomplishments and any points you expect to cover.

(4) Materials illustrating cost savings figures.

2. REHEARSAL

The second phase of the Management Review is the rehearsal. All speakers of the Quality Circle should practice their parts until they are confident of their presentation. Rehearsals will ensure that speakers are familiar with the charts, graphs and diagrams and timing of the presentation is correct. Rehearsals will also provide the opportunity to review the visual aids and script for their accuracy.

3. PRESENTATION

This phase of the Management Review is when all of your work will pay off. But to make sure your review proceeds smoothly:

- Keep the meeting under control
- Stick to the agenda
- Use the script
- Start on time and complete on schedule

Management Reviews are not an opportunity for circumventing the chain of command; or putting management on the spot for solutions, additional funding, and manpower increases; or pointing a finger at other organizations. Management Reviews are an opportunity for your Quality Circle to tell its story. You benefit through the personal development you receive while preparing and delivering the review. Management benefits by becoming personally aware of the improvements Quality Circles are making. Management Reviews can be the basis for workplace newspaper articles or for a case study so that other Quality Circles may learn how a given problem was solved which may help them in solving their problem.

A Management Review is the time when your Quality Circle will take the spotlight - make the best of it.

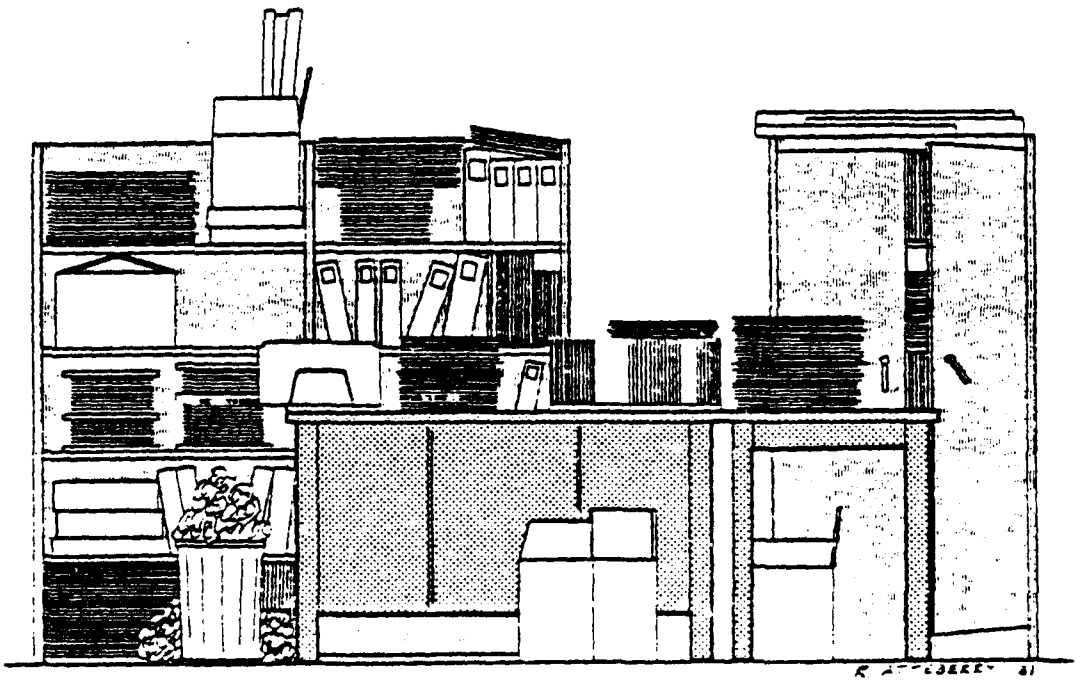
APPENDIX D

EXAMPLE OF A MANAGEMENT PRESENTATION

AB FEEDBACK

Quality Circle

PRESENTS



THE SPACE AND STORAGE PROBLEM

March 1981

INTRODUCTION

Welcome to the Management presentation of the "RB Feedback" Quality Circle. The name "RB Feedback" was chosen by the circle members from a list developed through brainstorming. The brainstorming method words like this - I will introduce the members by using this method.

Harlan Stehn (Leader)
Jan Snyder
Dick Kurtz
Vea Johnson
Bob Schwyn
Lynn Lorenzen
Jessie Eslick (Facilitator)
Nita Farnham
Randy Atteberry
Mary Flider

This quality circle is the combined effort of volunteers who meet on a weekly basis in an attempt to identify, analyze and solve work related problems. The goal of the circle is to improve methods of work by saving time and money, and to decrease traffic jams within the Provisioning, Repair Parts and Special Tool List and Catalogs Branch.

Each member has an important role in the quality circle which not only brings forth new ideas but stimulates job interest as well.

The first meeting of the "RB Feedback" circle was a brainstorming session to identify work related problems.

Subsequent discussions developed a clear statement of the problem. This first view graph will display the problems identified by the group.

Circled is the problem the group felt needed its immediate attention.

Space/Storage

PROBLEMS

Lack of Training

Heavy Workload

Inconsistency of Interpretation of Specifications

Communication with MED's

Inadequate Progress Charts

Space/Storage

Interuptions (Outside Org)

Inadequate Packaging Materials

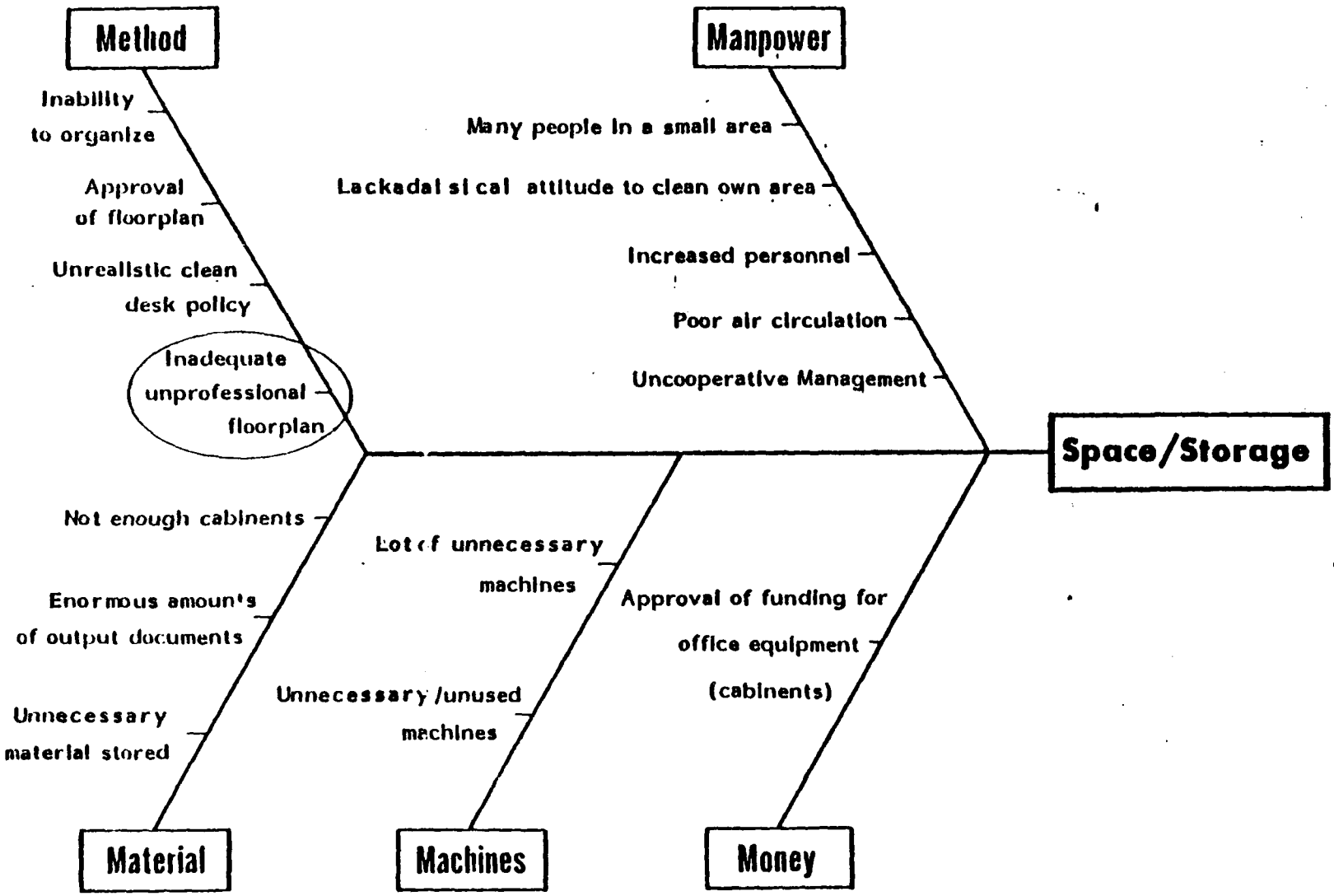
Office Noise Level

Keypunch Priority

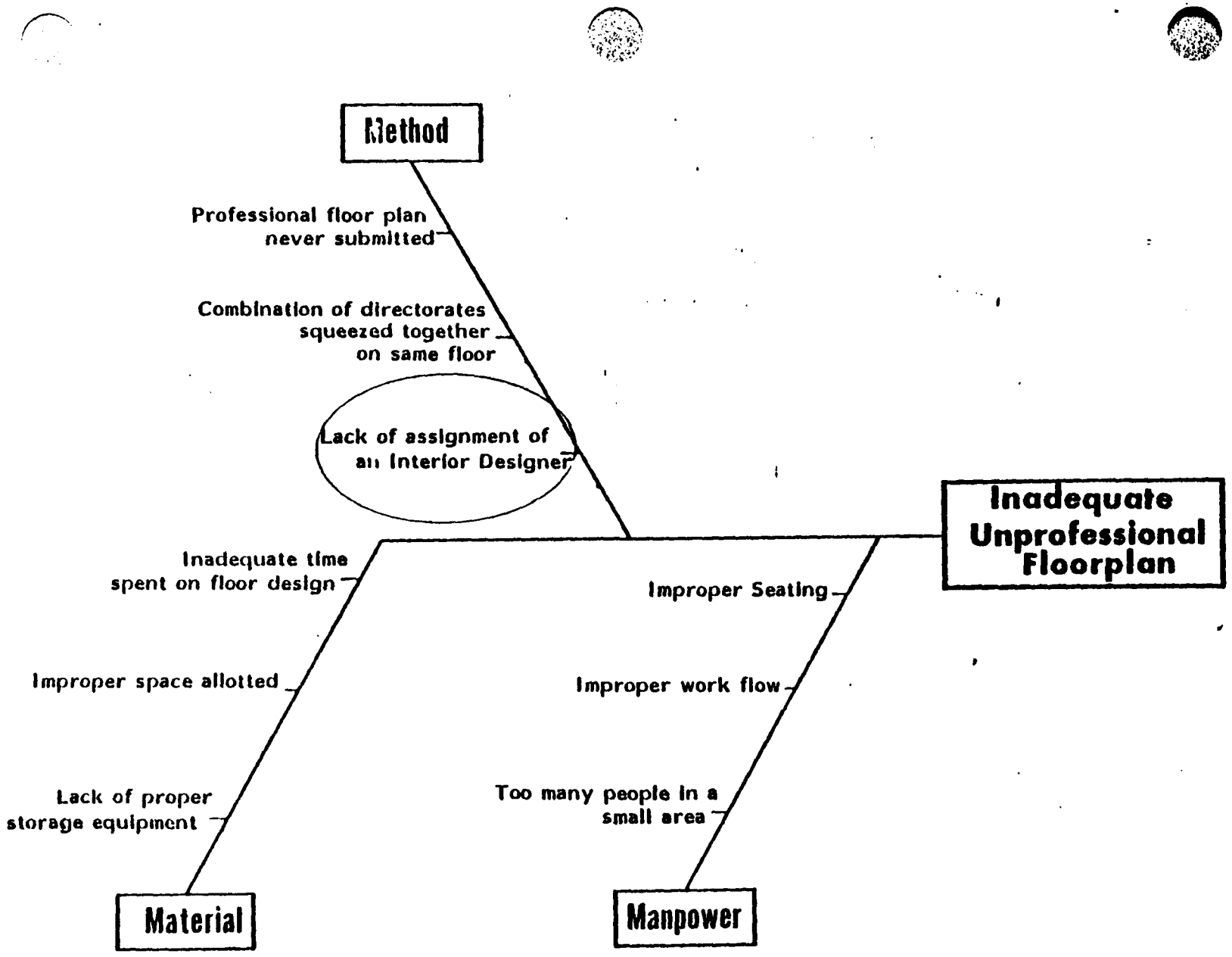
Unsafe Phone Jacks

Lack of Phone Lines

Using the cause and effect diagram, and the brainstorming method the circle developed a list of causes that were responsible for the space/storage problem. As you can see on your handout of view graph II the circle selected the inadequate/unprofessional floor plan.


Method
Manpower
Inability to organize
Approval of floorplan
Unrealistic clean desk policy
Inadequate unprofessional floorplan
Many people in a small area
Lackadaisical attitude to clean own area
Increased personnel
Poor air circulation
Uncooperative Management
Space/Storage
Not enough cabinents
Enormous amounts of output documents
Unnecessary material stored
Lot of unnecessary machines
Unnecessary/unused machines
Approval of funding for office equipment (cabinents)
Material
Machines
Money

Again, we went through the cause and effect diagram process to define the primary reasons for the problem. The vote determined that the lack of an interior designer was the root of our space/storage problem (view graph III).


Method
Professional floor plan never submitted
Combination of directorates squeezed together on same floor
Lack of assignment of an Interior Designer
Inadequate Unprofessional Floorplan
Inadequate time spent on floor design
Improper space allotted
Lack of proper storage equipment
Material
Improper Seating
Improper work flow
Too many people in a small area
Manpower

The circle members believe that a professional interior design will solve the space/storage problem, improve the production rate of the branch and resolve many other work related problems. "RB Feedback" has the advantage of an expert interior designer who volunteered to layout a new floor plan. We would like to direct your attention to the proposed floor plan. This new plan only utilizes the furnishings and floor space assigned to DRSAR-MAS-R. The benefits are illustrated in view graph IV.

Benefits of the New Floor Plan

We feel this floorplan has several advantages over the existing one:

- The supervisors were split up to allow better accessibility to customers and co-workers, which provides better personnel management.
- The apeture card files were rearranged to make better use of existing floor space, and to make them more convenient to use.
- The modular units group the team members together and have several advantages, as follows:

  A better training environment for lower grade personnel.

  A savings of floor space because the units are so compact.

  Time saved, and noise reduced because of the close proxcimity of co-workers.

  Less foot traffic, in the department, because of the integrated storage within the unit.

  And last, the money saved by the vastly improved work flow.

Compare the existing work flow diagram with the proposed work flow diagram. You will find a very confusing existing work flow compared to a simple proposed work flow. It becomes apparent that the cluster effect, with personnel within inches of each other, plus tables and cabinets close to their immediate working area, will solve the space and storage problem. Another advantage of the cluster is the training of lower grade personnel. Also this type of seating arrangement will cut down the noise level. There is an old statement: To save money, it cost money. However, the cost of implementating our proposed plan is minimal. (Overlay) displays the relocation of telephones and electrical outlets. In talking with installations and services we were advised that there would be no cost incurred in relocating the telephones, because the work would be preformed during the normal working day. The electrical outlets will cost $90.00 each to move. The necessary forms to accomplish this work have been prepared. The circle members are proposing three alternatives to move the furniture, view graph V.

1. The circle members are volunteering to move the desks, cabinets, and other equipment. This alternative will create an employee down time during the proposed move at a cost of $577.00. There is no lead time involved.

2. Prepare and submit a job order for the move. The cost will be $500.00 for the movers and an additional cost of $135[illegible].84 for employee down time. There is lead time involved.

3. Prepare and submit a job order for the move to be preformed on a Saturday. A Saturday move will cost $750.00. There will be no employee down time. There is lead time involved.

ALTERNATIVES

ALTERNATIVE ONE

FURNITURE	000.00
ELECTRICITY	810.00
DOWN TIME	577.00
	$1,387.00

NO LEAD TIME

ALTERNATIVE TWO

FURNITURE	500.00	(WEEKDAY)
ELECTRICITY	810.00	
DOWN TIME	1,335.84	
	$2,645.84	

PLUS LEAD TIME

ALTERNATIVE THREE

FURNITURE	750.00	(SATURDAY)
ELECTRICITY	810.00	
	$1,560.00	

PLUS LEAD TIME

LEAD TIME IS $972.49 PER WEEK,
IN LOST PRODUCTION TIME.

We suggest alternative number one be used for a savings of time and money. Our second choice is alternative three. View graph VI displays the cost effectiveness, while solving the problem.

COST AVOIDANCE ON A YEARLY BASIS

1 employees hours lost in motion .....209.04 hours

1 supervisors hours lost in motion ..... 698.38 hours

Number of employees 18

Number of supervisors 2

EMPLOYEES	SUPERVISORS
209.04 hours	698.38 hours
x 18 employees	x 2 supervisors
3762.72	1396.76

Employees total hours lost .....3762.72 hours

Supervisors total hours lost.....1396.76 hours

Employees average wage per hour $8.02

Supervisors average wage per hour $14.60

EMPLOYEES	SUPERVISORS
3762.72 hours	1396.76 hours
x $8.02 per hour	x $14.60 per hour
$30,177.01	$20,392.70

Time wasted x dollars (employees) $30,177.01

Time wasted x dollars (supervisors) $20,392.70

Time wasted x dollars TOTAL.....$50,569.71

In conclusion: If approved, the "RB Feedback" quality circle will have solved the space and storage problem. The benefits of this proposal are:

Better management

On the job training

Work distribution

Cost effectiveness

Organizational effectiveness

Measurable feedback

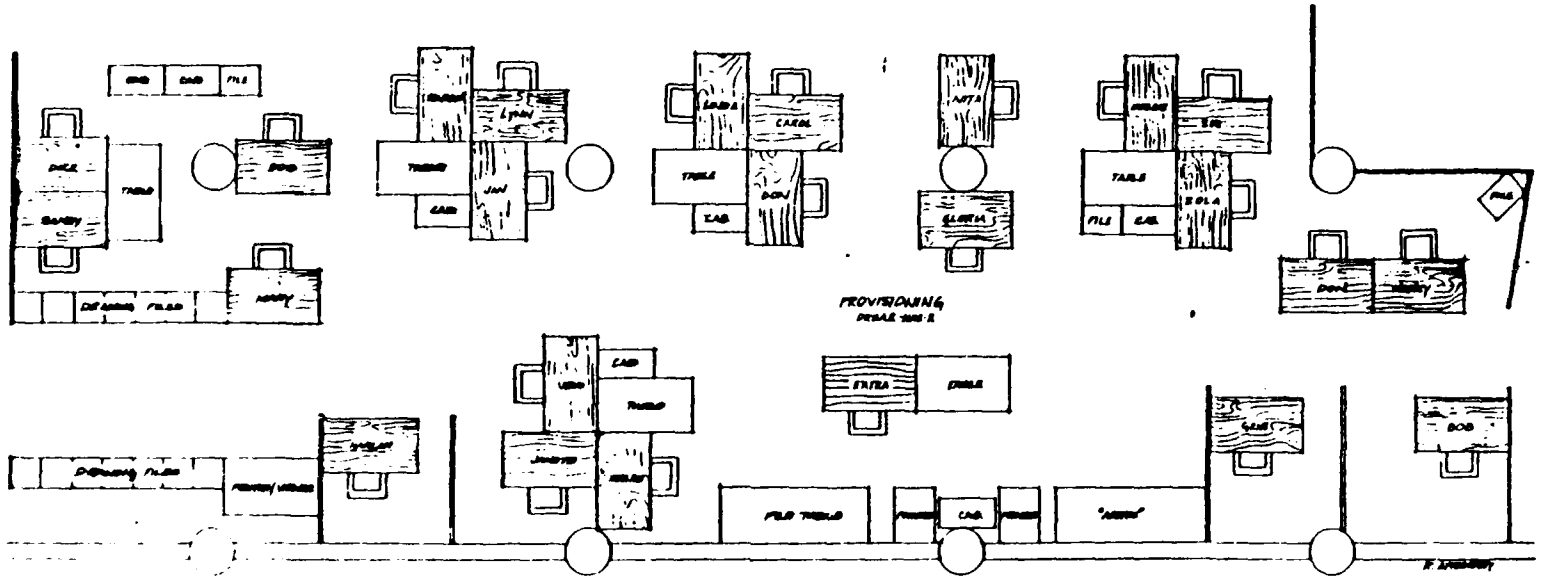
Key people and team members in same area for better personnel management

Greater productivity

Employee motivation

Effective use of floor space

ANY QUESTIONS?



PROPOSED FLOOR PLAN

SCALE
½"-1'-0"

APPENDIX E

WORK PERFORMANCE INDICATORS FOR THE OUTPATIENT MEDICAL RECORDS SECTION

MANAGEMENT OF OUTPATIENT MEDICAL RECORDS*
FY 1981

CLINIC SUPPORT RATE

FY 81	10	20	30	40
RECORDS PULLED FOR APPOINTMENTS	9,893	10,745	12,182	11,436
PRE-APPOINTED PATIENTS	12,652	13,772	14,484	14,182
DPL	90%	90%	90%	90%
APR	76% - 104%	76% - 104%	76% - 104%	76% - 104
RATE	78%	78%	84%	81%
% VARIANCE	-13%	-13%	-7%	-9%

RECORD RETURN RATE

FY 81	10	20	30	40
RECORD RETURNED (PNT CARE ONLY)	28,086	29,546	33,741	34,962
RECORD CHARGED OUT (PNT CARE ONLY)	28,192	30,344	36,614	34,386
DPL	98%	98%	98%	98%
APR	84% - 113%	84% - 113%	84% - 113%	84% - 113
RATE	99%	97%	92%	102%
% VARIANCE	+1%	-1%	-6%	+4%

RECORD FILE SPACE UTILIZATION RATE

FY 81	10	20	30	40
TOTAL CLINIC VISITS	76,895	85,552	82,810	91,386
LINEAR FEET OF OUTPATIENT RECORD FILES	2,104	2,019	2,538	2,558
DPL	26	26	26	26
APR	22 - 30	22 - 30	22 - 30	22 - 30
RATE	36.5visit/ft	42 visit/ft	33 visit/ft	36 visit/
% VARIANCE	+38%	+62%	+27%	+38%

CLINIC WALK-IN SUPPORT RATE

FY 81	10	20	30	40
RECORDS PULLED FOR WALK-INS (PNT CARE ONLY)	20,219	19,599	26,974	25,094
RECORDS PULLED (PNT CARE ONLY)	30,112	30,344	36,614	34,386
DPL	57%	57%	57%	57%
APR	47% - 67%	47% - 67%	47% - 67%	47% - 67
RATE	67%	65%	74%	73%
% VARIANCE	+18%	=14%	+30%	+28%

UNFILED DOCUMENT RATE

FY 81	1Q	2Q	3Q	4Q
UNFILED DOCUMENTS ON HAND	3,683	2,446	1,426	1,859
TOTAL CLINIC VISITS	76,895	85,552	82,810	91,386
DPL	3	3	3	3
APR	2.5 - 3.5	2.5 - 3.5	2.5 - 3.5	2.5 - 3.5
RATE	4.7%	2.8%	2%	2%
% VARIANCE	+57%	-7%	-33%	-33%

UNIDENTIFIED DOCUMENTS RATE

FY ~~81~~	1Q	2Q	3Q	4Q
UNIDENTIFIABLE DOCUMENTS	178	335	631	496
TOTAL CLINIC VISITS	76,895	85,552	82,810	91,386
DPL	5	5	5	5
APR	4 - 6	4 - 6	4 - 6	4 - 6
RATE	.23%	.39%	.76%	.54%
% VARIANCE	-95%	-92%	-85%	-89%

APPENDIX F

EXAMPLE OF AN ATTITUDE SURVEY

WORK SECTION SURVEY

Circle the correct answer.

1. How long have you worked in your section?

   a. less than 6 mos.
   b. 6 mos. - 1 year
   c. 1 - 2 years
   d. 2 - 5 years
   e. over 5 years

2. Your Sex? a. Male
   b. Female

True (T) or False (F) Questions - Circle the answer that best describes how you feel.

T F 3. My work section has pleasant working conditions.

T F 4. In comparison with other work sections, I feel mine is one of the best.

T F 5. The work I do is meaningful and worthwhile.

T F 6. There are many problems that should be looked at in my work section.

T F 7. I feel that I contribute to the success of the hospital.

T F 8. There is some friction in my work section.

T F 9. I would like to be involved in the decisions that affect my work section.

T F 10. The people in my section work well together.

T F 11. Team work is important in the work section.

T F 12. I enjoy my work.

T F 13. When there is a disagreement in the work section, it is easily settled.

T F 14. The kind of work I do is largely routine and boring.

T F 15. I take pride in my work.

T F 16. I work in a well-run section.

T F 17. I feel I can communicate any problem I might have to my supervisors.

T F 18. There is no one I can really talk to if I have a work problem

T F 19. There are problems that need to be solved in my work section.

T F 20. The supervision in my work section is the same for everyone.

T F 21. If I have a recommendation on how to improve my work, I feel that it will be seriously considered by my supervisors.

T F 22. The hospital HQ knows how important my job is.

T F 23. I can influence the procedures in my work section.

T F 24. The hospital HQ is interested in my work section.

T F 25. I only work to make a living.

T F 26. I am satisfied with my job.

T F 27. My supervisors are interested in me.

T F 28. There are changes I would make if I were in charge.

T F 29. The work load is equally divided in the work section.

T F 30. There are communication problems in my work section.

T F 31. Right now I am satisfied with how things are done in the work section.

T F 32. No one cares about my opinions on the job.

T F 33. My supervisors care about what I think.

T F 34. Many problems that need to be solved in the work section require outside solutions.

T F 35. I would like to solve problems in the work section.

T F 36. My supervisors are concerned about me and my input to the jo

T F 37. I like my job and I will probably stay in it.

T F 38. I often feel I'd like to change jobs.

T F 39. I would like to change the way my work section is run.

T F 40. If I were the supervisor, I would do things differently.

T F 41. My work section does high quality work.

T F 42. We have a good group of people in my work section.

BIBLIOGRAPHY

Periodicals

Amsden, D.M. and Amsden, R.T. QC Circles: Applications, Tools, and Theory. American Society for Quality Control, Milwaukee, Wis. 53203, 1976.

Baird, John. "Quality Circles May Substantially Improve Hospital Employes' Morale." Modern Healthcare 11 (September, 1981): 70-74.

Brody, E.W. "Japan's Quality-Control Circles Fall Flat for American Hospital Industry." Modern Healthcare 12 (January 1982): 96.

Bryon, Christopher. "An Attractive Japanese Export." Time (March 2, 1981): 74.

Cole, Robert E. "Made in Japan--Quality Control Circles." Across the Board. Vol. 16. No. 11 (1979): 72-78.

_____. "Learning from the Japanese: Prospects and Pitfalls." Management Review 69 (September, 1980): 22-42.

Crosby, P. "Talking in Circles Improves Quality." Industry Week (February 14, 1977): 62-64.

Dewar, D.L. "Measurement of Results--Lockheed QC Circles." ASQC Technical Conference Transactions - Toronto. (1976): A20-A25.

Fukuda, R. "The Reduction of Quality Defects by the Application of a Cause and Effect Diagram with the Addition of Cards." International Journal on Production Research 16 (1978): (1978): 305-319.

Gottschalk, Earl C. Jr. "U.S. Firms, Worried by Productivity Lag, Copy Japan in Seeking Employes' Advice." The Wall Street Journal, 21 February 1980.

Hanley, Joseph. "Our Experience with Quality Circles. "Quality Progress (February, 1980): 22-24.

_____. "Steering Quality Circles." Quality (December 1981): 52-54.

"Hospitals Adopt Japanese Managerial Style." Hospitals, November 1, 1981, pp. 52-53.

Hutchins, David. "How Quality Goes Round in Circles." Management Today (January, 1981): 27-32.

Irving, Robert R.; Baxter, John; Weimer, George A.; and McManus, George J. "What Can American Manufacturers Learn from the Japanese?" Iron Age (October 6, 1980): 45-51.

"IW Study Team Visits Japan: Quality Control Circles Pay Off Big." Industry Week 203 (October 29, 1979) 17-19.

"Japanese Management Style Wins Converts." Industry Week 201 (April 16, 1979): 19.

Johnson, Donald E.L. "Quality Circles Put Workers in Charge of Their Productivity." Modern Healthcare 11 (September, 1981): 68-69, 74.

Juran, J.M. "Japanese and Western Quality - A Contrast." Quality Progress (December 1978): 10-17.

_____. "Quality Control Circles Pay Off Big." Industry Week (October 29, 1979(: 17-19.

_____. "Quality Control Circles Unlock Worker Potential." Production Vol. 16. No. 5 (1979): 94-96.

_____. "International significance of the QC Circle Movement." Quality Progress (November, 1980): 18-22.

Konarik, Ronald B., and Reed, Wayne. "Work Environment Improvement Teams: A Military Approach to Quality Circles." Quality Circle Journal (May/June 1981): 94-101.

Konz, S.A. "Quality Circles: Japanese Success Story." Industrial Engineering (October, 1979): 24-27.

Law, Joe M. "Quality Circles Zero in on Productivity." Management (Summer 1980): A15-A19.

Lynch, Dudley. "Circling Up, Japanese Style." American Way (April, 1981): 34-36, 41.

Ouchi, William. "Going from A to Z: Thirteen Steps to a Theory Z Organization." Management Review (May 1981): 8-16.

"'Participative Management' May Hold Key to American Worker Output." Cost Containment Newsletter, September 1981, pp. 3-6.

"Quality Assurance: An Uninscrutable Lesson from Japan." Industrial Management (October, 1979): 16-17.

Ramsey, Douglas and Kirk, Donald. "Lessons from Japan, Inc." Newsweek (September 8, 1980): 61-62.

Rubinstein, Sidney P. "QWL and the Technical Society." Quality Progress (April 1980): 28-31.

Sprenger, Dian. "Circles." Missouri Hospitals 6 (Summer 1981): 14-19.

Swartz, Gerald E. and Comstock, Vivian C. "One Firm's Experience with Quality Circles." Quality Progress (September, 1979): 14-16.

_____. "The Workers Know Best." Newsweek (February, 1980): 65.

Townshend, Ralph. "Why the Japanese Are So Successful." Management Review 69 (October, 1980): 29, 46-47.

Whitehill, Arthur M., and Takezawa, Shin-ichi. "Workplace Harmony: Another Japanese Miracle?" Columbia Journal of World Business 13 (Fall, 1978): 25-39.

Yamamoto, Mititaka. "The Japanese - Homogeneity Promotes Ikaigai." Quality Progress 13 (September 1980): 18-21.

Unpublished Material

Rieker, Wayne S. "Trip Report for Study of Quality Control (QC) Circles in Japan--November 1973." Sunnyvale, California. (Typewritten.)

Rieker, Wayne S. and Boon, Sam. "Implementing QC Circles in America." Paper presented at the International Conference on Quality Control, Tokyo, Japan, 18 October 1978.